

Appl. No. 09/687,436

Preliminary Amendment dated September 21, 2004

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions, and listings, of claims:

- 1           1.       (Currently Amended) A method for flexible allocation of a resource,  
2       comprising the steps of:  
3                associating a soft limit and a hard limit to a potential user of the resource  
4       wherein the soft limit guarantees access to the resource by the potential user and the hard  
5       limit enables the potential user to exceed the soft limit on a first-come-first-served basis;  
6                obtaining a request for allocation of a portion of the resource for the  
7       potential user;  
8                granting the request if the request if allowed would not exceed the soft  
9       limit of the potential user;  
10              denying the request if the request if allowed would exceed the hard limit  
11       of the potential user;  
12              denying the request if the request if allowed would cause a grand total  
13       allocation of the resource for plural users to exceed a high watermark assigned to the  
14       resource and granting the request otherwise.
- 1           2.       (Currently Amended) The method of claim 1, wherein the step of denying  
2       the request if the request if allowed would cause a grand total allocation of the resource  
3       for the plural users to exceed a high watermark further comprises the step of entering a  
4       reduction mode for handling a subsequent request for allocation of the resource.

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1           3.       (Currently Amended) The method of claim 2, wherein the reduction mode  
2 comprises the step of:  
3                   granting the subsequent request if the subsequent request if allowed would  
4 not exceed a soft limit associated with a potential user associated with the subsequent  
5 request;  
6                   denying the subsequent request if the subsequent request if allowed would  
7 exceed a hard limit associated with the potential user associated with the subsequent  
8 request;  
9                   denying the subsequent request if the grand total allocation of the resource  
10 for the plural users is above a low watermark associated with the resource and granting  
11 the subsequent request otherwise.

1           4.       (Original) The method of claim 3, further comprising the step of assigning  
2 the low watermark to the resource.

1           5.       (Original) The method of claim 1, further comprising the step of assigning  
2 the soft limit to the potential user.

1           6.       (Original) The method of claim 5, wherein the step of assigning the soft  
2 limit comprises the step of assigning the soft limit in response to a class associated with  
3 the potential user.

1           7.       (Original) The method of claim 1, further comprising the step of assigning  
2 the hard limit to the potential user.

1           8.       (Original) The method of claim 7, wherein the step of assigning the hard  
2 limit comprises the step of assigning the hard limit in response to a class associated with  
3 the potential user.

1           9.       (Original) The method of claim 1, further comprising the step of assigning  
2 the high watermark to the resource.

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1           10.     (Original) The method of claim 1, further comprising the step of allocating  
2     a portion of the resource for system use.

1           11.     (Currently Amended) A computer system, comprising:  
2                 a resource;  
3                 a set of resource allocation parameters for the resource including a high  
4     watermark for the resource and a hard limit and a soft limit associated with a potential  
5     user of the resource;  
6                 a task that generates a request for allocation of a portion of the resource;  
7                 a resource manager that in a normal mode grants the request if the request  
8     if allowed would not exceed the soft limit and denies the request if the request if allowed  
9     would exceed the hard limit and denies the request if the request if allowed would cause a  
10    grand total allocation of the resource for plural users to exceed the high watermark and  
11    grants the request otherwise.

1           12.     (Currently Amended) The computer system of claim 11, wherein the  
2     resource manager switches to a reduction mode if the request if allowed would cause the  
3     grand total allocation for the plural users to exceed the high watermark such that the  
4     resource manager grants all subsequent requests that reduce a consumption of the  
5     resource while in the reduction mode.

1           13.     (Original) The computer system of claim 11, wherein the soft limit is  
2     assigned to the potential user to guarantee access to the resource by the potential user.

1           14.     (Original) The computer system of claim 11, wherein the hard limit is  
2     assigned to the potential user to enable the potential user to exceed the soft limit on a  
3     first-come-first-served basis.

1           15.     (Original) The computer system of claim 11, wherein the resource  
2     manager enters a reduction mode for handling a subsequent request for allocation of the  
3     resource if the request if allowed would exceed the high watermark.

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1           16.   (Currently Amended) The computer system of claim 15, wherein the  
2   resource manager in the reduction mode grants the subsequent request if the subsequent  
3   request if allowed would not exceed a soft limit associated with a potential user  
4   associated with the subsequent request and denies the subsequent request if the  
5   subsequent request if allowed would exceed a hard limit associated with the potential  
6   user associated with the subsequent request and denies the subsequent request if the  
7   grand total allocation of the resource for the plural users is above a low watermark  
8   associated with the resource and grants the subsequent request if the grand total  
9   allocation for the plural users is below the low watermark.

1           17.   (Currently Amended) The computer system of claim 16, wherein the  
2   resource manager switches to the normal mode if the grand total allocation for the plural  
3   users is below the low watermark.

1           18.   (New) A method of allocating a resource, comprising:  
2                providing a first limit, a second limit, and a third limit;  
3                receiving a request from a task associated with a first user for allocation of  
4   a portion of the resource;  
5                granting the request in response to determining that granting of the request  
6   would not cause allocation of the resource for the first user to exceed the first limit;  
7                denying the request in response to determining that granting the request  
8   would cause allocation of the resource for the first user to exceed the second limit; and  
9                denying the request in response to determining that total allocation of the  
10   resource to plural users including the first user would exceed the third limit.

1           19.   (New) The method of claim 18, further comprising granting the request in  
2   response to determining that granting the request would cause allocation of the resource  
3   for the first user to exceed the first limit but the total allocation of the resource to the  
4   plural users including the first user would not exceed the third limit.

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1           20.   (New) The method of claim 19, further comprising entering a reduction  
2   mode in response to determining that the total allocation of the resource to the plural  
3   users would exceed the third limit, the method when in reduction mode comprising:  
4                in response to a second request from the task associated with the first user  
5   for allocation of a portion of the resource,  
6                granting the second request in response to determining that  
7   granting the second request would not cause allocation of the resource to the first user to  
8   exceed the first limit,  
9                denying the second request in response to determining that  
10   granting the second request would cause allocation of the resource to the first user to  
11   exceed the second limit, and  
12               denying the second request in response to determining that  
13   granting the second request would cause the total allocation of the resource to the plural  
14   users to be above a fourth limit, the fourth limit lower than the third limit.

1           21.   (New) The method of claim 20, wherein the method when in reduction  
2   mode further comprises:  
3                granting the second request in response to determining that granting the  
4   second request would cause allocation of the resource for the first user to exceed the first  
5   limit but the total allocation of the resource for the plural users to be less than the fourth  
6   limit; and  
7                exiting the reduction mode in response to determining that granting the  
8   second request would cause the total allocation of the resource for the plural users to be  
9   less than the fourth limit.

1           22.   (New) The method of claim 18, wherein the first, second, and third limits  
2   are different.

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1           23.   (New) A computer system comprising:  
2                   a resource;  
3                   resource allocation parameters for the resource, the resource allocation  
4 parameters including a first limit, a second limit, and a third limit;  
5                   a task associated with a first user to generate a request for allocation of a  
6 portion of the resource; and  
7                   a resource manager responsive to the request to:  
8                         grant the request in response to determining that granting the  
9 request would not cause allocation of the resource for the first user to exceed the first  
10 limit;  
11                         deny the request in response to determining that granting the  
12 request would cause allocation of the resource for the first user to exceed the second  
13 limit; and  
14                         deny the request in response to determining that total allocation of  
15 the resource to plural users including the first user would exceed the third limit.

1           24.   (New) The computer system of claim 23, wherein the resource manager is  
2 responsive to the request to grant the request in response to determining that granting the  
3 request would cause allocation of the resource for the first user to exceed the first limit  
4 but the total allocation of the resource to the plural users including the first user would  
5 not exceed the third limit.

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1           25.   (New) The computer system of claim 24, wherein the resource manager is  
2 adapted to cause the resource manager to enter a reduction mode in response to  
3 determining that the total allocation of the resource to the plural users would exceed the  
4 third limit, the resource manager when in the reduction mode to:

5                   in response to a second request from the task for allocation of a portion of  
6 the resource,

7                               grant the second request in response to determining that granting  
8 the second request would not cause allocation of the resource to the first user to exceed  
9 the first limit,

10                           deny the second request in response to determining that granting  
11 the second request would cause allocation of the resource to the first user to exceed the  
12 second limit, and

13                           deny the second request in response to determining that granting  
14 the second request would cause the total allocation of the resource to the plural users to  
15 be above a fourth limit, the fourth limit lower than the third limit.

1           26.   (New) The computer system of claim 25, wherein the resource manager  
2 when in reduction mode is adapted to further:

3                   grant the second request in response to determining that granting the  
4 second request would cause allocation of the resource for the first user to exceed the first  
5 limit but the total allocation of the resource for the plural users to be less than the fourth  
6 limit; and

7                           exit the reduction mode in response to determining that granting the  
8 second request would cause the total allocation of the resource for the plural users to be  
9 less than the fourth limit.